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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/631,219	07/28/2003	Richard Scheps	82948	3293

32697 7590 05/03/2010

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EXAMINER	
VAN ROY, TOD THOMAS	
ART UNIT	PAPER NUMBER
2828	
MAIL DATE	DELIVERY MODE
05/03/2010	PAPER

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte RICHARD SCHEPS

Appeal 2009-014232
Application 10/631,219
Technology Center 2800

Decided: May 3, 2010

Before ROBERT E. NAPPI, ELENI MANTIS MERCADER and CARL W. WHITEHEAD, JR., *Administrative Patent Judges*.

WHITEHEAD, JR., *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant appeals under 35 U.S.C. § 134 from the Examiner's rejection of claims 1-11 and 13. App. Br. 3. We have jurisdiction under 35 U.S.C. § 6(b) (2002). We reverse.

Claim 1, which further illustrates the invention, follows:

1. A laser, comprising:
a first optically reflective element;

a second optically reflective element opposed to and aligned with said first optically reflective element to define a laser cavity having an optical axis;

a laser dye gain element having a laser dye and which is interposed between said first and second optically reflective elements along said optical axis for transforming an optical pump signal into a resonant optical signal;

a laser diode system for generating and injecting said optical pump signal into said laser cavity along said optical axis, where said optical pump signal is a sequence of optical pulses having a pulse width of about $n\tau_f$ where τ_f represents a fluorescence lifetime of said laser dye, and $3 \leq n \leq 25$ so that said laser diode system operates in a non-steady-state mode.

Appellant appeals the following rejections:

Claims 1, 3-7, 9-11 and 13 stand rejected under 35 U.S.C. § 102(b) as being unpatentable over Scheps (Ans. 4-5).[1]

Claims 2 and 8 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Scheps (Ans. 6).

Rather than repeat the arguments of Appellant or the Examiner, we refer to the Appeal Brief (filed August 1, 2007 and January 20, 2008), the Reply Brief (filed April 28, 2008) and the Answer (mailed April 21, 2008) for their respective details. In this decision, we have considered only those arguments actually made by Appellant. Arguments which Appellant could have made but did not make in the Brief have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(vii) (2008).

ISSUE

Does Scheps' disclosure of excitation pulse lengths that are several times greater than the fluorescence lifetime τ_f constitute a pulse width ge where the claimed pulse width range is about $n\tau_f$ where n is within a $3 \leq n \leq 25$ range so that the laser diode operates in a non-steady-state mode?

[1] Claim 13 is not included in the statement of rejection for the anticipation rejection over Scheps. *See* Ans. 4. However, the claim is addressed within the body of the rejection. *See* Ans. 5. This is considered to be harmless error and we will address the rejection of claim 13 accordingly.

ANALYSIS

The Examiner contends that Scheps' disclosure of excitation pulse lengths that are greater than several times the fluorescence lifetime encompasses the lowest end of the claimed $3 \leq n \leq 25$ range. *See* Ans. 7; *see also* Scheps, col. 20. ll. 16-17. The Examiner relies upon a dictionary citation of the term *several* and extrapolates that *several* would be defined most broadly as "2‹ several‹ many" according to the dictionary definition that states "an indefinite number more than two and fewer than many." *See* Ans. 7. The Appellant argues that the boundless range disclosed by Scheps falls short of the level of detail required to show anticipation of the claimed range $3 \leq n \leq 25$ (App. Br. 6).

The Examiner also find that Scheps would clearly operate in a non-steady mode for a given interval prior to the quasi-continuous mode thereby "meeting" the claim limitation "that said laser diode operates in a non-steady state mode" because the claim limitation does not require that the operation of the laser diode to be in the non-steady-state mode only. *See* Ans. 8. The Appellant argues that the diode laser system of claim 1 inherently operates only in non-steady-state mode as it is restricted to operation within the range of $3 \leq n \leq 25$. *See* App. Br. 8. We find the Appellant's argument to be persuasive.

It is arguable that Scheps encompasses the lowest end of the claimed range and both the Appellant and the Examiner agree that Scheps briefly operates in a non-steady state mode. *See* Ans. 7-8; see also App. Br. 6-7. However, claim 1 recites "where said optical pump signal is a sequence of optical pulses having a pulse width of about $n\tau_f$ where τ_f represents a fluorescence lifetime of said laser dye, and $3 \leq n \leq 25$ so that said laser diode

system operates in a non-steady-state mode." Independent claims 7 and 13 recite similar limitations. Scheps does not inherently or expressly disclose a laser diode that functions in a non-steady-state mode when the pulse width is within the $3 \leq n \leq 25$ range. *See Verdegaal Bros.*, 814 F.2d at 631. Therefore we will not sustain the Examiner's anticipation rejection of independent claims 1, 7 and 13. We will also not sustain the Examiner's anticipation rejection of dependent claims 2-6 and 8-11 for the same reasons as stated above.

DECISION

We reverse the Examiner's decision rejecting claims 1-11 and 13.

ORDER

REVERSED

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